

REMARKS/ARGUMENTS

Claim 21 has been amended. No claims have been added or canceled. Thus, claims 1-22 remain pending.

In the Office Action to which this paper is responsive, claim 21 was rejected under 35 USC 101, and claims 1-6, 8-19, and 21-22 were rejected under 35 USC 103(a). Claims 7 and 20 were objected to as being dependent on a rejected base claim, but were found to be allowable if rewritten in independent form. Reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Information Disclosure Statement

An information disclosure statement, which corrects the reference to U.S. Patent No. 6,023,281, accompanies this amendment.

Rejection under 35 USC § 101

Claim 21 was rejected under 35 USC § 101 as being directed to non-statutory subject matter. As suggested by the examiner, claim 21 has been amended to recite a "computer readable storage medium." Accordingly, Applicant respectfully requests withdrawal of this rejection.

Rejection under 35 USC § 103, Diamant in view of Simpson

Claims 1-6, 10-13, and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Diamant (U.S. Patent Publication No. 2004/0122997) in view of Simpson (U.S. Patent No. 5,867,687).

Claims 1-13

Claim 1 is allowable over Diamant and Simpson, either alone or in combination, as those references fail to disclose or suggest all the elements of claim 1. For example, claim 1 recites:

in response to a detected interrupt, determining whether the detected interrupt was generated by one of the plurality of co-processors of the multiprocessor subsystem; and

in the event that the detected interrupt was generated by one of the plurality of co-processors, scheduling execution of a deferred servicing procedure,

wherein during execution the deferred servicing procedure services a plurality of pending interrupts generated by two or more of the plurality of co-processors, including the detected interrupt.

In Simpson, an interrupt controller 2 has parallel inputs for receiving respective interrupt signals 8a-8d. *See Simpson*, Figure 1; col. 2 lines 13-14; and col. 3 lines 54-55. Each interrupt signal originates from a dedicated source. *Id.*, col. 4 lines 4-5. The interrupt controller 2 identifies an interrupt associated with a particular interrupt source. *Id.*, col. 4 lines 10-13. In response to the interrupt request, a processor 4 interrupts its current process and commences execution of the interrupt process associated with the detected interrupt. *Id.*, col. 4 lines 41-44. As a separate interrupt process is performed for each detected interrupt signal, only one interrupt from a single dedicated source is serviced during execution of the interrupt process. In contrast, claim 1 recites that during execution the servicing procedure services a plurality of pending interrupts, and more particularly interrupts generated by two or more co-processors.

As to the ordering of different interrupt processes, Simpson teaches that one interrupt process is completed before commencing another interrupt process from the same source or from a source with the same priority. *Id.*, col. 7 lines 1-6. When multiple interrupt signals with different priority are received at the same time, the interrupt signal with the highest priority is serviced. *Id.*, col. 5 lines 9-14. After the execution of the high-priority interrupt process, a different interrupt process will service the interrupt from the source with the next highest priority. *Id.*, col. 5 lines 14-18. A higher priority interrupt may cause a lower priority interrupt process to be interrupted, but then the lower priority interrupt process is first stopped. *Id.*, col. 5 lines 23-28. In each of these situations, each interrupt is serviced by a separate interrupt process, and thus a servicing procedure only services one interrupt coming from a single source.

As to Diamant, the Office Action states that “Diamant does not expressly teach wherein the system services a plurality of interrupts generated by two or more of the plurality of co-processors.” *See Office Action*, page 4 lines 4-5. In Diamant, there is one device driver 18 for each device 10. *See Diamant*, paragraph 21. (“The operating system 12 further loads into memory 6 and executes one device driver 18... for each device 10... recognized by the operating system 12.”) (emphasis added).

Thus, neither Diamant or Simpson teach or suggest that a servicing procedure, scheduled in response to a detected interrupt, “services a plurality of pending interrupts generated by two or more of the plurality of co-processors,” as recited by claim 1. For at least these reasons, claim 1 is allowable over Diamant in view of Simpson. As claim 1 is allowable, dependent claims 2-13 are also allowable for at least the same rationale.

Claims 14-22

Applicants submit that independent claims 14 and 21 should be allowable for at least the same reasons as claim 1. Claims 15-20 depend from claim 14, and thus derive patentability at least therefrom.

Rejection under 35 USC § 103, Diamant and Simpson in view of Alasti

Claims 8, 9, and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Diamant in view of Simpson further in view of Alasti et al. (U.S. Patent No. 6,574,693).

Claims 8 and 9 depend upon claim 1 and are allowable for at least the same rationale as claim 1. Claim 16 depends upon claim 14 and is allowable for at least the same rationale as claim 14.

Alasti is directed to the disabling of interrupts from certain subsystems, such as power management, when a processor is within a certain context. *See Alasti*, abstract line 8 and page 5 line 63. Even assuming that this aspect of Alasti teaches disabling interrupts from co-processors of a subsystem in the event of a detected interrupt being generated by one of the co-processors of the subsystem and that there is a motivation to combine with Simpson and

Diamant, this teaching does not make up for the deficiencies in Diamant and Simpson with respect to these claims.

Objection to Claims 7 and 20

Claims 7 and 20 were objected to as being dependent on a rejected base claim, but were found to be allowable if rewritten in independent form. In view of the foregoing arguments with regard to claims 1 and 14, Applicant respectfully submits that claims 7 and 20 are in condition for allowance without being rewritten in independent form. Withdrawal of the objection is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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